At step **1614**, server **110** accepts the data packet (e.g., modem packet) transmitted by user device **120** and proceeds, at step **1615** to insure media integrity (i.e., validity). Valid data packets are processed, i.e., at step **1616**, while a determination of invalidity instructs step **1620**, i.e., "Retry?".

At step **1620**, whether to send an optional "retry" informational message to user device **120** is based on similar determinations to those appearing above in step **1521**, above, e.g., the number prior retry attempts. In the case of a first retry attempt, if the determination to "retry" is "yes", then at step **1622** the server directs an instruction (i.e., "Set Retry flag for reply packet) to the application running in server **110** to prepare for receipt of a data packet (i.e., "retry"), i.e., at steps **1618** and **1619**. After several unsuccessful attempts have been made to receive a data packet from user device **120**, server **110** at step **1621** identifies an error, as instructs a return to step **1610**, i.e., to look for a new protocol ID tone (e.g., a switch to a slower baud rate or different communication parameters).

The subject methods allow for rapid adjustments (i.e., 0.15 seconds/each) to be made in initiating telecommunications contacts between user device **120** and server **110** without the necessity for lengthy (i.e., 3 seconds or more) power consuming modem handshake negotiations. Each data packet transmitted from user device **120** to server **110** has instructions for all of the following: namely, (i) turn voice/audio "off"; (ii) turn data communications "on"; (iii) set baud rate to 300, 600, 1200, or 2400; and, (iv) receive data packet.

Low Power Telecommunications Methods

Embodiments of the invention provide methods that makes the low power consumption of user device **120** possible. Most data transmissions are initiated by user device **120**, thus, user device **120** is able to save power by maintaining its transceiver **123** in a low power "sleep" mode until it is needed for telecommunications. Since, the user device always knows when data is coming it can power up circuits only when they are needed for communications.

The modem is not drawing power when the following status is present in user device **120**: namely,

Bar code reader is using power to take a reading; or,

Microprocessor **122** is using power to decode a telecommunication signal or a bar code reading signal; or,

Audio system components (i.e., mixer, amplifier, and/or speaker) are using power to drive speaker **128** for audio presentation to the user; or,

Transceiver **123** is active transmitting a command message to host computer server **110**; or, Screen display **126** is active presenting visual information to the user.

Also, when transceiver **123** and/or screen display **126** are active,), or when there is not audio or modem traffic on the telecommunication path **130**, the audio system automatically go into sleep mode (i.e., low power).

Power Storage and Conservation

User device **120** contains multiple component circuits that all share a limited power source. Uncontrolled use of any single component circuit can break the budget of less than about 300 milliwatts, particularly the transceiver **123** circuits which can draw more than half of the total allowable current. In a presently preferred embodiment, user device **120** includes a power supply circuit that monitors the power stored in a capacitor or battery. A LBO ("low battery out") instruction indicates to microprocessor **122** that the storage element is nearly completely charged. Microprocessor **122** conducts an LBO check before enabling circuitry which draws significant amounts of power, e.g., a modem unit or the audio system. Microprocessor **122** also conduct an LBO check before enabling circuits needed for any data transmission. If an LBO check indicates that insufficient power exists for a data transfer, the user device **120** turns off all non-essential circuitry and waits for the storage power circuit to charge. Telecommunication lines provide maximum loop line currents when the line is silent, i.e., without voice communication. To facilitate charging, user device **120** may send a command message (e.g., a DTMF tone) to the host computer server to "turn off voice communications and wait". The latter command message facilitates re-charging of low power user device **120**. User device **120** can periodically "report" to the host computer server **110** the status of power circuits, and in the application running in host computer server **110** can make its own determination of whether to signal an informational "time out" message, e.g., 'call back later' to the screen display. If the power condition is acceptable to microprocessor **122** provides current to "wake up" (i.e. step **1514**, FIG. **15**) the transceiver **123**. A protocol ID tone (i.e., step **1514**) is then sent to the host computer server **110** indicating a status ready to send command messages and receive informational messages. The protocol ID tone (i.e. a "switch signal", as defined supra) can be issued in less than about 0.15 seconds, i.e., a time significantly faster than the time required for a peer-peer modem handshake negotiation which requires several seconds.

A capacitor is used to store power and provides powers to the user device when the telephones line currents is insufficient to power active circuits. Power is limited when either user device **120** or server **100** is involved in transmitting and receiving telecommunication signals. The capacitor is selection is based on storing sufficient power to operate telecommunication circuits during loud or long voice or data messages and must be rated for high voltage and have very low leakage.

The voltage level of the capacitor is monitored by a voltage regulator. The LBO ("low battery out" signal, above) output of regulator is high when the capacitor is almost fully charged and in this manner microprocessor **122** can check the status of LBO (and thereby power available from the capacitor) before initiating any function that requires a significant amount of power. LBO is checked before all telecommunication data transfers and before all bar code scans.

The User Device Answers the Phone

In alternative embodiments, the invention provide methods for user device **120** to answer a telecommunications call. For example, user device **120** could take a message for the user. It this case user device **120** must listen for a ring. This is a problem for most telephone line powered devices because line powered devices are not allowed to draw power to run circuits while "On Hook".

According to the methods of the invention user device **120** employs the power of the "ring signal" to turn on a relay coil. The relay then answers the "ring" by powering up the user device. This aspect of the invention may be used, e.g., when server **110** needs to initiate contact with user device **120** for a maintenance session, check security codes or usage records, or surreptitiously change encryption standards.

We claim:

1. A power conservation method for telecommunications between a handheld low power user device and a host server for transmitting an order, a voice message or a data message, comprising the steps of:

entering said order, voice message or data information at said handheld user device and preparing a data packet comprising said order, voice message or data information;